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Benjamin J. Hauptman
LOWE HAUPTMAN GILMAN & BERNER, LLP
Suite 310
1700 Diagonal Road
Alexandria, VA 22314

EXAMINER

MENBERU, BENIYAM

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,195

Applicant(s)

CHIU, CHUI-KUEI

Examiner

Beniyam Menberu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on March 28, 2006 has been entered.

Response to Arguments

2. Applicant's arguments, see Remarks, filed March 28, 2006, with respect to the rejection(s) of claim(s) 1 under U.S. Patent No. 6694062 to Yang and claims 8 and 14 under U.S. Patent No. 6694062 to Yang in view of U.S. Patent No. 6285799 to Dance et al have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 5917927 to Satake et al and U.S. Patent No. 4974098 to Miyakawa et al.

Claim Objections

3. Claim 9 is objected to because of the following informalities: on lines 1-2 "wherein said said plurality" should be "wherein said plurality". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5917927 to Satake et al.

Regarding claim 1, Satake et al disclose a method used in an image-capture apparatus (column 2, lines 45-49), said method comprising: providing a changeable calibration chart not built in said image-capture apparatus (column 8, lines 25-37; column 9, lines 5-15; column 14, lines 33-45; column 9, lines 22-31; The calibration plate 102 or the hole 57 used for dark

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calibration shown in Figure 2 is external to the imaging system of reference 14 (sensor) and the lighting system of 13 (column 3, lines 25-28)); capturing a plurality of information of said calibration chart by said image-capture apparatus (column 14, lines 34-45); and
subjecting said information of said calibration chart to a correction means to normalize a signal value corresponding to aberrant information at least in part to correct an aberrance of said information (column 8, lines 2-27; column 14, lines 43-61).

Regarding claim 3, Satake et al teach all the limitations of claim 1. Further Satake et al disclose method wherein said image-capture apparatus comprises a plurality of sensor elements aligned in a direction (column 7, lines 1-10).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 6055071 to Kuwata et al.

Regarding claim 2, Satake et al teach all the limitations of claims 1. However Satake et al does not disclose the method according to claim 1 further comprising: assigning a plurality of corresponding calibration values to said information with a host computer; and storing said corresponding calibration values for utilization of said image-capture apparatus.

Kuwata et al disclose method comprising: assigning a plurality of corresponding calibration values to said information with a host computer (column 27, lines 66-67; column 28, lines 1-2; column 16, lines 11-15; column 20, lines 47-50); and storing said corresponding calibration values for utilization of said image-capture apparatus (column 16, lines 16-17).

Satake et al and Kuwata et al are combinable because they are in the similar problem area of imaging device calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the inputting and storing of calibration value capabilities taught by Kuwata et al into the system of Satake et al to implement a calibration system which can accept input for calibration data from an external source.

The motivation to combine the reference is clear because calibration system can be more convenient and flexible if a user can change the values used in the calibration of a scanning system.

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8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 6285799 to Dance et al.

Regarding claim 4, Satake et al teaches all the limitations of claim 3. However Satake et al does not disclose a calibration chart comprising a portion of a plurality of pixels aligned in said direction and another portion of said pixels aligned orthogonal to said direction.

Dance et al disclose a calibration chart comprising a portion of a plurality of pixels aligned in said direction and another portion of said pixels aligned orthogonal to said direction (Figure 3A; column 7, lines 5-7, lines 16-18).

Satake et al and Dance et al are combinable because they are in the similar problem area of image system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the calibration chart of Dance et al with the system of Satake et al to implement an accurate scanning system.

The motivation to combine the reference is clear because Dance et al teaches that the calibration chart is used to measure point spread function that is related to blur in imaging systems (column 1, lines 25-27; column 3, lines 20-25).

Regarding claim 5, Satake et al in view of Dance et al teach all the limitations of claim 4. Further Satake et al discloses the method according to claim 4, wherein all said pixels have a homogenous hue (column 8, lines 28-36. A white calibration paper can be considered to have pixels data that are all similar since there are no patterns on the paper.).

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9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 6285799 to Dance et al further in view of U.S. Patent No. 5513300 to Shibazaki.

Regarding claim 6, Satake et al in view of Dance et al teach all the limitations of claim 4. Dance et al disclose the method wherein calibration chart wherein all said pixels have different hues (Figure 3a; column 7, lines 5-15, lines 54-64). However Satake et al in view of Dance et al does not disclose the method according to claim 4, wherein all said pixels are outputted combined with an object article.

Shibazaki discloses method of forming combined images of pixel data from two sources (column 3, lines 50-53, lines 54-57, lines 59-61, lines 65-67; column 4, lines 24-25; Figure 1, reference 301,300,400).

Satake et al, Dance et al, and Shibazaki are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the multiple color calibration chart taught by Dance et al and the image combining method of Shibazaki into the calibration system of Satake et al to implement calibration system with capability of combining calibration image with scanned image.

The motivation to combine the reference is clear because Shibazaki teaches that overlapping images are used to improve the quality of print (column 1, lines 30-32) and Dance et al teaches that the calibration chart is used to

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measure point spread function that is related to blur in imaging systems (column 1, lines 25-27; column 3, lines 20-25).

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 5359458 to Melman et al.

Regarding claim 7, Melman et al teaches all the limitations of claims 1. However Melman et al does not disclose the method, wherein said correction means comprises a low-pass filter.

Melman et al disclose the method of calibration wherein said correction means comprises a low-pass filter (column 13, lines 66-68; column 14, lines 1-7).

Satake et al and Melman et al are combinable because they are in the similar problem area of imaging system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the low-pass filter correction with the system of Satake et al to implement an accurate scanning system.

The motivation to combine the reference is clear because Melman et al teaches that the high frequency components like dust are not desirable for a scanning (column 13, line 68, column 14, line 1-3).

11. Claims 8, 9, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 6285799 to Dance et al.

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Regarding claim 8, Satake et al discloses a calibration method of improving an output performance of an article captured by a scanner, said method comprising (column 2, lines 45-49):
providing a changeable calibration chart (column 8, lines 25-37; column 9, lines 5-15; column 14, lines 33-45; column 9, lines 22-31);
scanning said calibration chart for capturing a plurality of information of all said pixels (column 14, lines 34-46); and
subjecting said information of all said pixels to a correction means at least in part to normalize a signal value corresponding to aberrant information at least in part to correct aberration of a portion of said pixels (column 8, lines 2-27; column 14, lines 43-61).

Dance et al disclose wherein said changeable calibration chart comprises a portion of a plurality of pixels aligned in a direction and another portion of said pixels aligned orthogonal to said direction (Figure 3A; column 7, lines 5-7, lines 16-18).

Satake et al and Dance et al are combinable because they are in the similar problem area of image system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the calibration chart of Dance et al with the system of Satake et al to implement an accurate scanning system.

The motivation to combine the reference is clear because Dance et al teaches that the calibration chart is used to measure point spread function that is related to blur in imaging systems (column 1, lines 25-27; column 3, lines 20-25).

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Regarding claim 9, Satake et al in view of Dance et al teach all the limitations of claim 8. Further Satake et al discloses the method, wherein said plurality of pixels are not built in said scanner (column 8, lines 25-37; column 9, lines 5-15; column 14, lines 33-45; column 9, lines 22-31; The calibration plate 102 or the hole 57 used for dark calibration shown in Figure 2 is external to the imaging system of reference 14 (sensor) and the lighting system of 13 (column 3, lines 25-28)).

Regarding claim 10, Satake et al in view of Dance et al teach all the limitations of claim 8. Further Satake et al discloses the method according to claim 4, wherein all said plurality of pixels have a homogenous hue (column 8, lines 28-36). A white calibration paper can be considered to have pixels data that are all similar since there are no patterns on the paper.).

Regarding claim 13, Satake et al further in view of Dance et al teach all the limitations of claim 8. Further Satake et al disclose the method according to claim 8, wherein said scanning step comprises scanning said calibration chart with a linear sensor array of said scanner wherein said linear sensor array comprises a plurality of sensor elements aligned in said direction (column 7, lines 1-10).

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 6285799 to Dance et al further in view of U.S. Patent No. 5513300 to Shibazaki.

Regarding claim 11, Satake et al in view of Dance et al teach all the limitations of claim 8. Further Dance et al disclose the method, wherein all said

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pixels have different hues (Dance et al: Figure 3a; column 7, lines 5-15, lines 54-64). However Satake et al in view of Dance et al does not disclose whereby all said pixels are outputted combined with said article.

Shibazaki discloses whereby pixels are outputted combined with said article (Shibazaki: column 3, lines 50-53, lines 54-57, lines 59-61, lines 65-67; column 4, lines 24-25; Figure 1, reference 301, 300,400).

Satake et al, Dance et al, and Shibazaki are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the multiple color calibration chart taught by Dance et al and the image combining method of Shibazaki into the calibration system of Satake et al to implement calibration system with capability of combining calibration image with scanned image.

The motivation to combine the reference is clear because Shibazaki teaches that overlapping images are used to improve the quality of print (column 1, lines 30-32) and Dance et al teaches that the calibration chart is used to measure point spread function that is related to blur in imaging systems (column 1, lines 25-27; column 3, lines 20-25).

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 6285799 to Dance et al further in view of U.S. Patent No. 5359458 to Melman et al.

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Regarding claim 12, Satake et al in view of Dance et al teach all the limitations of claim 8. However Satake et al in view of Dance et al does not disclose the method, wherein said correction means comprises a low-pass filter.

Melman et al disclose the method of calibration wherein said correction means comprises a low-pass filter (column 13, lines 66-68; column 14, lines 1-7).

Satake et al, Dance et al, and Melman et al are combinable because they are in the similar problem area of imaging system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the low-pass filter for correction as taught by Melman et al with the system of Satake et al in view of Dance et al to implement an accurate scanning system.

The motivation to combine the reference is clear because Melman et al teaches that the high frequency components like dust are not desirable for a scanning (column 13, line 68, column 14, line 1-3).

14. Claims 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 4974098 to Miyakawa et al.

Regarding claim 14, Satake et al disclose a method of capturing calibration information used in a scanner (column 2, lines 45-49), said method comprising;
providing a changeable calibration chart (column 8, lines 25-37; column 9, lines 5-15; column 14, lines 33-45; column 9, lines 22-31);

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scanning all said pixels with a linear sensor array in said scanner (column 14, lines 34-46; column 7, lines 1-10), said linear sensor array comprising sensor elements aligned in a direction for building said calibration information of said calibration chart (column 7, lines 1-10); and
subjecting said calibration information to a correction means at least in part to normalize a signal value corresponding to aberrant information (column 8, lines 2-27; column 14, lines 43-61). However Satake et al does not disclose calibration chart comprising a plurality of pixels arranged in a two-dimensional array and a linear sensor array moving orthogonal to sensor elements aligned in a direction.

Miyakawa et al disclose calibration chart comprising a plurality of pixels arranged in a two-dimensional array (Figure 5, reference 40, 43, 41, 42; column 4, lines 6-62) and a linear sensor array moving orthogonal to sensor elements aligned in a direction (column 3, lines 60-66; Figure 1).

Satake et al and Miyakawa et al are combinable because they are in the similar problem area of image system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the calibration chart and linear sensor of Miyakawa et al with the system of Satake et al to implement calibration using a linear sensor and a 2-dimensional array of calibration data.

The motivation to combine the reference is clear because Miyakawa et al teaches that high quality image and efficient imaging can be accomplished (column 2, lines 30-50).

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Regarding claim 17, Satake et al in view of Miyakawa et al teach all the limitations of claim 14. Further Satake et al discloses the method according to claim 14, wherein all said pixels have a homogenous hue (column 8, lines 28-36. A white calibration paper can be considered to have pixels data that are all similar since there are no patterns on the paper.).

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 4974098 to Miyakawa et al further in view of U.S. Patent No. 5359458 to Melman et al.

Regarding claim 15, Satake et al in view of Miyakawa et al teach all the limitations of claim 14. However Satake et al in view of Miyakawa et al does not disclose the method according to claim 14, wherein said correction means comprises a low-pass filter at least in part to correct aberration of a portion of said pixels.

Melman et al disclose wherein said correction means comprises a low-pass filter at least in part to correct aberration of a portion of said pixels (column 13, lines 66-68; column 14, lines 1-7).

Satake et al, Miyakawa et al, and Melman et al are combinable because they are in the similar problem area of imaging system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the low-pass filter for correction as taught by Melman et al with the system of Satake et al in view of Miyakawa et al to implement an accurate scanning system.

The motivation to combine the reference is clear because Melman et al teaches that the high frequency components like dust are not desirable for a scanning (column 13, line 68, column 14, line 1-3).

16. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 4974098 to Miyakawa et al further in view of U.S. Patent No. 6055071 to Kuwata et al.

Regarding claim 16, Satake et al in view of Miyakawa et al teach all the limitations of claim 14. However Satake et al in view of Miyakawa et al does not disclose the method further comprising assigning a plurality of calibration values to said calibration information with a computer connected with said scanner.

Kuwata et al disclose the method further comprising assigning a plurality of calibration values to said calibration information with a computer connected with said scanner (column 27, lines 66-67; column 28, lines 1-2; column 16, lines 11-15; column 20, lines 47-50; Figure 21, reference 321, 101).

Satake et al, Miyakawa et al, and Kuwata et al are combinable because they are in the similar problem area of imaging system calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the inputting and storing of calibration value capabilities taught by Kuwata et al into the system of Satake et al in view of Miyakawa et al, to implement a calibration system which can accept input for calibration data from an external source.

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The motivation to combine the reference is clear because calibration system can be more convenient and flexible if a user can change the values used in the calibration of a scanning system.

17. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5917927 to Satake et al in view of U.S. Patent No. 4974098 to Miyakawa et al further in view of U.S. Patent No. 5513300 to Shibazaki.

Regarding claim 18, Satake et al in view of Miyakawa et al teach all the limitations of claim 14. Further Miyakawa et al disclose wherein all said pixels have different hues (column 2, lines 40-42; column 4, lines 8-16). However Satake et al in view of Miyakawa et al does not disclose whereby pixels are outputted combined with a scanned article.

Shibazaki discloses whereby pixels are outputted combined with a scanned article (Shibazaki: column 3, lines 50-53, lines 54-57, lines 59-61, lines 65-67; column 4, lines 24-25; Figure 1, reference 301, 300,400).

Satake et al, Miyakawa et al, and Shibazaki are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the image combining method of Shibazaki into the calibration system of Satake et al in view of Miyakawa et al to implement calibration system with capability of combining calibration image with scanned image.

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The motivation to combine the reference is clear because Shibazaki teaches that overlapping images are used to improve the quality of print (column 1, lines 30-32).

Other Prior Art Cited

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6985270 to Keech et al disclose digital image calibration.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER

Patent Examiner

Beniyam Menberu

BM

05/12/2006